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Creating a Career Path for Shared Research Resources Personnel

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ABSTRACT

Shared research resources are essential to academic research. A rapidly evolving workforce within a highly competitive market is making recruitment and retention of knowledgeable and technically skilled core staff more difficult. The inability to recruit and retain staff diminishes the resource's overall ability to provide services, which in turn affects academic research quality. Research institutions need to recognize that the roles and skills of shared research resource staff are distinguishable from those of research staff in funded investigator laboratories, and in doing so, develop a career path for shared research resource staff that will help these facilities recruit, train, and retain them. This brief focuses on the creation of a standardized career track for shared research resource staff: a career path of at least 3 to 5 tiered positions with task outlines that can be tailored to positions needed in any shared research resource. Salaries will vary for individuals within each position classification based on experience, mastered competencies, and time within the shared research resource. Besides characterizing basic task differences between shared research resource staff and other research personnel, the most compelling reason for having a well-delineated career path for shared research resource staff is to establish fairness, equity, and true opportunity in a supportive working environment, where shared research resource staff are motivated by developing a marketable skill set, gaining professional self-confidence, and earning a meaningful salary. Presented here is a case study from Oregon Health & Science University of the creation of a career path for shared research resource staff.

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INTRODUCTION

As FASEB (Federation of American Societies for Experimental Biology) convened its second task force in July 2020 around maximizing shared research resources, the COVID-19 pandemic was challenging employers in all sectors to reassess workforce viability. At the same time, workers were becoming more focused on life quality concerns, such as flexible schedules, remote work offerings, opportunities for career growth and development, integrated work–life balance, and overall happiness with their work lives. Shared research resource (SRR) managers and administrators were learning in real time that not only were they competing with industry as they struggled to retain their best employees but also almost nothing had been done across the board to establish and market SRR positions as an exciting career path for young scientists, mathematicians, and data analysts. Several administrators described a pattern of "hiring for expertise," whereby positions were

created to attract top talent needed immediately for intensive research projects rather than building a workforce. “If you’re not hiring at entry level staff, there is no career path,” said one. A nationwide survey by the ABRF (Association for Biomolecular Resource Facilities) Flow Cytometry Research Group, conducted October through December 2021, reported that 27% of respondents had openings that were not being filled.[1] The survey also identified ongoing support for the development of an SRR curriculum to be used when partnering with community college instruction platforms. Other technology areas echoed, “open positions: no applicants.” It is no surprise, then, that career development and career paths leading to success were quickly targeted as a focal point for discussion by the FASEB Task Force.

SRR personnel constitute a service industry all its own within the biomedical research community.[2],[3] These shared resources cater foremost to the local research community’s needs and often are established organically, involving faculty and staff who are already at the institution. Because many SRRs evolved out of a specific need, original staff were often pigeonholed into existing and classical research workforce classifications. Yet, those who perform basic science research in any academic institution understand that SRR personnel are highly specialized in particular technologies, have excellent client skills to grasp varied research aims, and can adeptly communicate research solutions and best practices.[4] This uniqueness, too often undervalued when calculating infrastructure space and needs, demands categorization and return on investment. Without clear and supported career paths within this service industry, combined with effective recruitment outreach to maintain it, the SRR workforce will continue to struggle, with great harm to the nation’s research mission.

Task Force participants, members of this service industry themselves, realized that SRR personnel across the country continuously advocate for institutional recognition and support of SRRs. They wanted to probe deeper. What federal agency policy changes would facilitate SRR career development and recognition? What forms of institutional commitment implicitly foster a robust core workforce? Could professional associations such as ABRF and ISAC (International Society for Advancement of Cytometry) become part of a multifaceted plan to build the SRR workforce? How could the stated comprehensive goal for greater inclusion and diversity within SRRs provide opportunities for training and recruitment? The Task Force subcommittees agreed that a fundamental first step is career path (or track) creation. This brief provides a step-by-step approach. While advocating for this first step, the Task Force foresaw that this goal would not be realized without institutional commitment, including strategic planning with development funding. During a FASEB Roundtable, held in June 2021, participants agreed that strategic planning is key to SRR success, but plan components vary from institution to institution. Institutional commitment for SRRs is too often found lacking or at best obscured by other priorities. Many believed that by making SRRs an “essential service,” leadership and faculty would prioritize shared resources. For more than 40 years, the Task Force maintained, SRRs have enabled efficient and widespread access to state-of-the-art technologies and scientific expertise that have accelerated research. Consequently, it is time for all those who benefit from SRRs to acknowledge the enterprise as fully interwoven within the research mission fabric.

Need for a career path/track: Background

Modern academic research is increasingly multidisciplinary, which requires access to specialized expertise and instrumentation. To meet this need, research institutions have established SRRs, often known as cores, that massively expand the portfolio of research options available locally at a given institution.

Although many factors are contributing to recent issues with recruitment and retention of SRR staff, the challenge can be addressed proactively with an established defined career path, delineated skill sets for each position, and incremental promotions and raises based on factors specific to the successful performance of the SRRs. A core that cannot recruit and retain quality staff cannot be expected to efficiently optimize income and consistently provide high-quality service.

Historically, SRRs have been staffed on an ad hoc basis. Unfortunately, a rapidly changing industrial compensation environment is making recruitment and retention of core staff more difficult. The COVID-19 pandemic further aggravated this situation in SRRs in much the same way as with other industries. Across industries, employees new to the workforce are demanding more in terms of job satisfaction and work–life balance. They seek good opportunities, broad-based training and mentoring, and a clear path to career advancement. The same is true with core facilities.

Research institutions need to develop a career path for core staff that will help SRRs recruit, develop, and retain staff. SRRs cannot compete with commercial entities such as big pharma and the biotech industry on compensation alone. SRRs recoup only their operating expenses and budget each year to break even with no profit. Federal guidelines for this recharge mechanism mandate no overcharging of federal grants. Supported by institutional subsidies, philanthropic donations, and service fees charged to grants and other research support funds, SRRs strive to provide more holistic value to their employees. To compete with entities that are in a position to offer greater compensation, SRRs are more keen than ever to define core laboratory positions and create a distinct career path for young scientists interested in nonprofit research opportunities leading to advancements in patient care. With broad-based Human Resources (HR) assistance, including overall compensation review and institutional development plans, academic SRRs can address the specific core workforce demands, which must include appropriate compensation ranges to become more competitive.

Academic research institutions must recognize that, unlike classical research employees who often transition from research assistant positions to a PhD program or to medical school, intending to establish their own research laboratories or do clinical work, SRR staff are frequently dedicated to working in SRRs for their career path. Although institutions and their SRRs cannot afford to compensate staff on a level commensurate with the commercial industry, they must find ways to minimize the pay gap and commit to supporting staff development and promotion in order to retain valuable employees. A well-stated and acknowledged SRR career path is an essential first step toward an SRR environment that will attract and retain top biomedical research talent.

RESULTS

Oregon Health & Science University: Creating a career path for SRR staff in 2022

The problem

Oregon Health & Science University (OHSU) is a public research university focusing primarily on health sciences, with a main campus, including 2 hospitals, in Portland, Oregon. OHSU has an impressive and diverse portfolio of SRRs, centrally administered, that are dedicated to meeting scientists' research needs through access to state-of-the-art technology and consultation with top-level scientific expertise. Like many institutions, OHSU has struggled with recruiting and retaining staff in its SRRs. Staffing shortages resulting from the COVID-19 pandemic have made previous years particularly challenging, leaving positions in some SRRs open for months and sometimes even years. It became clear that general research job classifications at OHSU grouped SRR staff into categories that did not fit the jobs they performed. Additionally, these position descriptions did not provide sufficient flexibility for determining core-specific qualifications, and they did not provide an adequate and supported career pathway for core staff. For that reason, a cohort of SRR directors, administrators, and HR leaders worked toward implementing a set of classifications that met the needs of the institution's SRR workforce. Efforts were concentrated on the SRRs' staff—from entry level to senior core scientist. These positions do not, in general, include core directors.

The SRR classification team

The SRR classification team at OHSU consisted of 4 individuals: 3 SRR directors and the Director of OHSU's University Shared Resources program. In the process of developing new career classifications for core staff, these 3 SRR directors represented the group of core leaders at the institution, and the University Shared Resources director represented leadership from central administration. This team worked closely with other core leaders and representatives from HR at OHSU to address the challenges of recruitment and retention. This included developing a new core job classification/family structure, building salary groups, assigning cores to the groups, and setting salaries for individual staff members.

These efforts culminated in the announcement of a new job family at OHSU. On February 28, 2022, OHSU reclassified the first major group of SRR (core) staff into a new job family, called "Core Scientists." Employees in this group were given new titles and job descriptions, and in many cases, salaries were adjusted to reflect the nature of the core service position as a distinct scientific career within OHSU and as part of the institution's research infrastructure.

Approach

Each academic research institution will have different criteria for how it establishes its position classifications and a different suite of SRRs to which the classifications will be applied. However, because OHSU wanted

these classifications to work for all of the SRRs at the institution, it was important that the education and experience requirements for each classification apply broadly. In addition to standardized education and years of experience qualifications, OHSU cores then articulated individual skill sets by core for every position level. These skill sets were added on to the generic scope for all cores and, in many cases, may be used as an equivalent to specific degrees and years of experience.

The first step in defining the career path at OHSU was to establish a set of position titles that all cores would use. The position titles chosen (shown in Figure 1) describe a career path along which SRR staff can proceed by mastering important SRR-dependent skills. The entry points along the path depend not only on educational level and experience but also on the skill sets that the staff member brings to the SRR. The opportunity to move along the path aligns more with each individual's mastery of competencies than their educational level. For example, a new hire with a bachelor's degree and 3 years of relevant experience might begin at the Assistant Core Scientist 2 classification. However, if the individual also had specific experience and demonstrated competency with an important piece of core instrumentation, they might expect to start at the Associate Core Scientist classification. Furthermore, a core staff member need not possess a bachelor's degree to begin a career in a core, at least at the entry level, which increases the potential pool of applicants who have an interest in pursuing a career in scientific service.

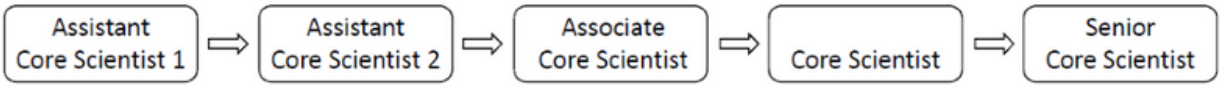

Figure 1
Position titles chosen for OHSU SRRs.

When creating new position descriptions, the classification team included equally essential soft skills, such as customer service, communication, and conflict resolution. Training and mentoring of other core scientists and users of core equipment are essential skills and need to be articulated, with pertinent detail, for each position level. In entry-level positions, positive mentoring behavior itself needs to be mentored. Mentoring is most obvious in hands-on bench training and training for appropriate use of instrumentation; however, mentoring for successful customer relations is just as critical. Junior SRR staff need to observe their more experienced colleagues deftly manage a difficult client when samples provided were poorly prepped and did not provide optimal results or when a user abuses a calendar system for equipment access. Great customer service in an SRR depends on all staff modeling best practices every day, during each operational transaction.

Though each academic institution will adopt its own approach to the creation of a multitier track or hierarchy of SRR positions, HR will necessarily be involved. As OHSU's SRR team sought to institute a well-defined career path, they engaged HR as advocates. The HR professionals helped the team understand general aspects of how position descriptions are written and levels delineated by specific tasks, eg, what are the minimum required qualifications relative to preferred qualifications? In some cases, the SRR classification team and HR looked for analogous situations to help gain understanding. For example, using the institution's information

technology job family as a parallel specific classification family helped to point to precedents that SRRs could follow. HR also occasionally asked to see comparable positions at “sister” institutions. This posed challenges. Distinct core job families are not yet commonplace; therefore, true comparisons were often not available. The SRR team and HR agreed, however, that these SRR classifications should be established as new positions, not as a part of another category of science-based staffing already in place at an institution. The SRR enterprise is unique, demanding its own recruitment, promotion, and retention tool kit.

The initial work at OHSU focused on SRR staff and did not address leadership positions. A future step will be to define the distinct specifications for SRR leadership—from high-level core management to scientific director level.

Job classifications

After establishing the new core scientist titles, the SRR team set out to articulate what those titles encompass. The “classifications matrix” that follows was patterned after the matrix already in use by OHSU for other job classifications, including the General Research jobs family. Using a familiar format was helpful in communicating with HR. First, generic scope and duties were articulated; then, the team submitted the generic scope to all SRR leaders (core directors) for review. Based on this template, each core director developed skill set listings for each level of progression for staff members of their specific SRR. Below is an example of the generic core descriptor matrix (Table 1) followed by the specific matrix (Table 2) developed for one core, the Advanced Light Microscopy Core.

Table 1

MATRIX 1: *USR general core descriptor—Core scientist job family*

Core-based technology and method expertise for researchers on campus, depending on the core, includes service projects, assay services, and equipment training. Core operational duties, that are assumed granularly through training as a core scientist progresses through the track, include responsibilities for service quality assurance and compliance, project and request tracking, financial duties around recharge mechanisms, and user outreach. Core management duties, not specified here, may also include operational and financial oversight; reporting; staff recruitment, training, and mentoring; and staff and user management. Each approved core has detailed job responsibilities, expectations, and requirements (see Matrix 2, an example of a Core Descriptor).

Job title	General duties	Minimum qualifications

Assistant Core Scientist 1	Under direct supervision, performs various standardized and routine service functions in a core.	Bachelor's degree preferred, OR Associate degree in relevant field, with relevant coursework or experience, OR Equivalent in combination of skills, education, experience sets as above or as reflected in the Core Descriptor Matrix
Assistant Core Scientist 2	Under general supervision, performs various standardized and routine or expert service functions in a core. Performs work of basic to moderate difficulty. May perform some assignments independently.	Master's degree in relevant field, OR Bachelor's with relevant coursework AND 1 year of relevant experience, OR Associates in relevant field AND 2 years of relevant experience, OR Equivalent in combination of skills, education, experience sets as above or as reflected in the Core Descriptor Matrix
Associate Core Scientist	Assumes proficiency at the Assistant Core Scientist 2 level plus the following: Under minimal supervision, sets up and/or performs various expert service functions in support of customers' research goals and grant commitments. May lead one or more phases of a core service project. Performs work of moderate to complex difficulty. Contributes to the planning, design, and modification of core service projects.	Master's degree in relevant field AND 3 years of experience or core-relevant expertise OR Bachelor's with relevant coursework AND 5 years of relevant experience or core-relevant expertise (*) Minimally, a Bachelor's degree is required. Direct OHSU core experience may be weighed more heavily than other experience.

Core Scientist	Assumes proficiency at the Associate Core Scientist level plus the following: Under occasional supervision, assists with the design of core service functions in support of customer's research goals and grant commitments. Assumes responsibility for specific components of core service projects and seeks advice as necessary. Performs work of complex difficulty. With advanced knowledge of research practices and expert knowledge of core technologies, contributes to the development of methodology/standard operating procedures. Provides hands-on training on core technologies and mentoring of client-service skills to junior staff.	PhD in relevant field, OR Master's degree in relevant field AND 5 years of experience or core-relevant expertise, OR Bachelor's with relevant coursework AND 9 years of relevant experience or core-relevant expertise. (*) Minimally, a Bachelor's degree is required. Direct OHSU core experience may be weighed more heavily than other experience.
Senior Core Scientist	Assumes proficiency at the Core Scientist level plus the following: Oversees the design of core service functions, procedures, and day-to-day operations in support of customers' research goals and grant commitments. Monitors results, responds to unusual outcomes, and develops and implements modifications to address any technical or design issues. Performs work of the highest difficulty using extensive knowledge in specialized technology. With expert knowledge of research practices and core technologies, directs and trains staff in methodology/standard operating procedures.	PhD AND 3 years of relevant experience, OR Master's degree in relevant field AND 7 years of relevant experience or core-relevant expertise, OR Bachelor's with relevant coursework AND 15 years of relevant experience or core-relevant expertise. (*) Minimally, a bachelor's degree is required. Direct OHSU core experience may be weighted more heavily than other experience.

Table 2

MATRIX 2: *Example of core descriptor for advanced light microscopy core*

Job title	Job responsibilities, expectations, and requirements
Assistant Core Scientist 1	Demonstrated experience operating a light microscope and acquiring digital image data in a research setting.

Assistant Core Scientist 2	• Skilled in operating automated wide-field, laser-scanning, and spinning-disk confocal microscopes. • Understands and can explain basic principles in microscopy to novice user. • Understands and can explain point spreading in fluorescence microscopy and optical sectioning to novice user. • Can train novice user in basic operation of automated, laser-scanning, and spinning-disk confocal microscopes. • Can train novice user in basic image analysis using at least 1 commercial platform supported in the core.
Associate Core Scientist	Assumes proficiency at the Assistant Core Scientist 2 level plus the following: • Skilled in operating highly automated imaging platforms and can train users on said platforms. • Skilled in operating microscopes that deploy advanced imaging modalities and can operationally train users on said modalities. • Skilled in operating environmental controls for time-lapse experiments of live samples. • Can train novice user in advanced image analysis using commercial platforms supported in the core. • Understands deconvolution and can deploy it to a variety of images. • Can communicate with inquiring investigators about capabilities and technical features of automated wide-field, laser-scanning, and spinning-disk confocal microscopes accessible in the core. • Can participate with evaluation of user-provided samples for instrument and analysis platform selection.
Core Scientist	Assumes proficiency at the Associate Core Scientist level plus the following: • Understands and can explain technically advanced applications in microscopy to investigators. • Communicates with inquiring investigators about capabilities and technical features of all imaging and analysis platforms in the core as they pertain to their experimental goals. • Can evaluate all platforms in the core for suitability to achieve an investigator’s imaging goals. • Can provide advice to investigators as it pertains to sample preparation. • Participates in evaluation of new technologies and instruments. • Assumes responsibilities for maintaining and troubleshooting a subset of imaging systems in the core.

Senior Core Scientist	• Assumes proficiency at the Core Scientist level plus the following: • Understands multiphoton excitation principle and can train users in operating microscopes with multiphoton lasers. • Skilled in maintaining and troubleshooting most imaging systems in the core. • Can advise investigators on the relative merits of different modalities as they pertain to their imaging projects. • Can identify gaps and participates in development of new imaging services and training materials. • Assists in evaluation of new technologies and their development as new services.

Focus on skill sets

Each SRR leader crafted their requirements based on the specific skills necessary for the individual core laboratory and the technology it provides. Minimum requirements, focused on skill sets as a metric for recruitment and advancement, allow OHSU SRRs to offer opportunities to individuals interested in pursuing a scientific career in academic research institutions that are dedicated to service to the research community. Advancement in job title and salary is dependent on the ability of an individual to perform the work needed by researchers on campus in a scientific discipline as it relates to SRRs, whether or not the individual possesses a specific degree. This gives SRR leadership more flexibility in recruiting skilled technicians from a wider and more diverse pool and gives the staff members opportunities to advance in a professional career as their skills develop. Skill sets, coupled with the distinct set of classifications associated with specific core technology disciplines, allow for a more appropriate analysis of salary ranges required to recruit and retain.

In addition to addressing retention challenges, this focus also has ramifications for recruiting a more diverse workforce. Addressing barriers to entry for scientific positions and offering a career pathway with an appropriate career salary will offer opportunities to people who experience challenges to access in scientific positions.

Determination of salary ranges

Distinguishing cores as a distinct job family also required an assessment of salaries associated with the newly formed career positions. To address this, the SRR team, with the assistance of HR, defined a set of salary groups. Once the general core salary groups were defined, each SRR's leadership worked with the institution to determine which group worked best for that SRR. This decision was based on the level of compensation required to recruit and retain core staff, balanced by the overall compensation cost that can be supported by the SRR's combined institutional subsidy and income. After the salary groups were assigned to each SRR at the institution, SRR leadership worked with administration and HR to determine new compensation levels for

existing SRR staff and future hires. It was important to maximize recruitment and retention within a budget-conscious context.

Example salary groups and associated salary ranges are provided in Figure 2 (in this case, 5 salary groups, groups A through E). A typical SRR might reside in salary group C. An SRR demanding highly specialized expertise and certifications would require a higher salary range, as depicted in salary group E, whereas an SRR that does not require specific technical competencies and certifications could be better served by salary group A. For groups A through D, starting salaries for entry-level positions were set at the same level to ensure that SRRs were on equal footing when competing for entry-level staff.

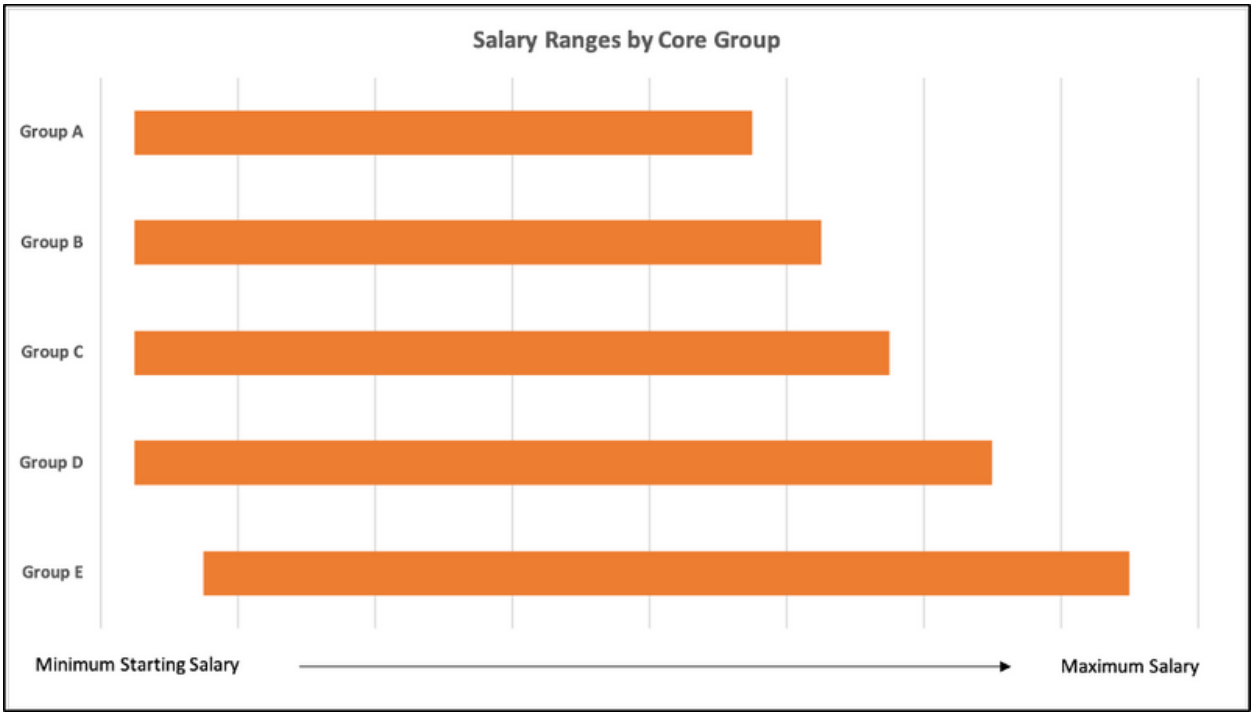

Figure 2
OHSU salary ranges by core group.

Partnering with HR

Collaborative communication with HR was key to developing a new SRR classification system at OHSU. Since SRR operations differ significantly from standard research laboratory operations, the SRR domain was unfamiliar territory for many people in HR. For this reason, HR representatives were invited to SRR leadership meetings to learn about the needs of cores on campus. As mentioned above, the OHSU SRR classification team worked proactively to develop and articulate the classifications, spending the time to flesh out the system in a way that meshed with HR's current model while addressing the specific needs of SRRs, including setting up core-specific job requirements and core-specific salary group ranges. Doing this prior to meeting with HR

demonstrated that the SRR team acknowledged HR expertise and demonstrated that it understood and could work within the HR model.

The proposed SRR model was then submitted to HR for review, questions, and potential edits. This collaborative process built trust and significantly reduced the necessary amount of work for HR representatives. Once positions were approved through HR and became available for staffing needs, OHSU SRRs reorganized whole core laboratories, moving staff to their new positions. Institutional commitment was fundamental to implementing this new career track. The OHSU SRR administrative director worked closely with central administration to evaluate and plan for budget impacts. All those involved likewise recognized that for the new career path to gain traction, education and oversight was imperative to ensure that SRR directors mentor staff and monitor promotion milestones. As a result, junior technologists and core scientists would be appropriately promoted once they reach the specified time points and/or markers or determiners of skills acquired. Now that implementation of a new career track for OHSU University Shared Resources cores has begun, these classifications and salary ranges will be reviewed on an annual basis with stakeholders from SRRs, HR, compensation, and administration to further optimize the new system and make changes where necessary.

Support from leadership and stakeholders

It is important to acknowledge the support for the SRRs given by many stakeholders at OHSU. Challenges in recruitment and retention set the stage for necessary change. HR's willingness to engage and collaborate with the SRR directors and those leading the classification team was a major component of success. However, the support from the researchers who utilize services and the executive leaders such as the Chief Research Officer, department chairs, and many other stakeholders was critical and much appreciated as the SRR leaders crafted these classifications. An important factor in this was the recognition and acceptance that changes to career classifications will affect core salary levels, which may in turn affect the cost of the cores to the various stakeholders in the institution.

On average, 40% to 45% of any SRR operation is staff salary expense. After reviewing all potential new salaries, the impact of the SRR changes was calculated to be approximately a 5% increase in total operating cost for all participating SRRs across the board, with some cores impacted more than others. The research leadership understood that this increase in compensation expense could not be covered by immediate increases in users' rates and allowed for incremental increases within a multiyear business plan. Cores will always budget and attempt to set rates to recover all facility costs, including supplies, service agreements, and compensation, but in cases in which there is a gap, the willingness of the institution to invest in the core infrastructure by supporting ongoing operations year to year is critical to sustainability. In OHSU's case, the importance of a robust core infrastructure was deemed important enough to budget additional support, and approval for the salary changes was granted.

Effect on core operations

Communication from the newly titled Core Scientists at OHSU indicates that there is a new sense of belonging associated with this new job family. One SRR staff member reported that the week following the changes, she turned down 2 subsequent, unsolicited requests to apply for jobs in commercial entities because she now sees a path for success at OHSU and feels that her work in the core is recognized appropriately. She did not want to consider a move, even if it offered another increase in pay, because she feels at home in the core environment. Many core leaders also report a significant positive shift in morale among the core staff. These are the early stages, of course, and now that OHSU has reclassified the shared resources jobs as a distinct career offering, it will be important to monitor the long-term success of the new system and find ways to sustain the enthusiasm and meet the challenges ahead. Career paths established at other institutions are listed on the ABRF Career Development Committee website.[5]

DISCUSSION

Professional associations weigh in

Associations such as ABRF and FASEB have begun looking at persistent, recognizable positions across institutions nationwide and even internationally. They are considering whether these “standardized” positions for SRRs could be marketed through recruitment and job fairs as well as actively linked to secondary education and community college bench-tech training programs. Association leaders believe that a professionalized career path in cores, one that eliminates barriers to entry associated with traditional research jobs, offers substantial opportunities to underserved individuals interested in scientific careers.

ABRF is currently writing a National Science Foundation programmatic grant for funding to facilitate community college and academic shared resources partnerships, similar to a hugely successful program started more than 2 decades ago in Austin, Texas, by Linnea Fletcher, Biotechnology Department Chair, Austin Community College, and Director, InnovATEBIO National Biotechnology Education Center.[6] Fletcher coordinates biotechnology programs across the nation. Using the Austin Community College model, she promotes the use of incubators at community colleges to enhance education and area economic development while developing leadership within the biotech education community. If funded, ABRF would establish compatible models in other biotech hubs, such as Chicago and Boston.

When the FASEB task force finalized its 2021 report, Maximizing SRRs Part III: Addressing Systemic Challenges and Opportunities, it called on academic institutions themselves to meet workforce challenges. OHSU’s campaign to create an SRR career path was successful because of institutional and stakeholder engagement and support. The OHSU SRR team enlisted institutional leaders, HR experts, and stakeholders in their months-long drive to establish a new classification system. Together, these allied partners within OHSU’s research community are creating a positive environment for recruitment and retention of the biomedical research workforce needed by SRRs to enable scientific discovery and improve health outcomes.

CONCLUSION

The entire work force across the nation is changing before our eyes. Research professionals, along with other professional cohorts, are embracing the benefits of remote and hybrid work scheduling. For recruitment and retention, a well-delineated SRR career path is more essential than ever. SRRs must maintain their viability as a vital training ground and career option to provide professional opportunities for young scientists and, consequently, to sustain their operations.

A career track with well-defined staff positions, created with institutional and research community acknowledgment and support, sets a new tone for SRR workforce development. A career track, with specific skills to be mastered, opens the door for community college and high school feeder programs in addition to college graduates. High school counselors can suggest students consider SRR jobs when discussing biomedical career options. The FASEB Task Force put forth urgent directives for science leaders to take the SRR enterprise seriously and recalibrate its return on investment profile; the OHSU case study provides the right first step, a map for successful career path development by institutions nationwide.

References

1. Schaefer K. Flow cores in the time of COVID. FCRG Flow Cytometry Core Survey 2021. Presented at: ABRF Annual Meeting; Palm Springs, CA. ↩

2. Eastwood B. Top 8 skills for success in a biomedical science career. Northeastern University. Published March 4, 2021. https://www.northeastern.edu/graduate/blog/top-biomedical-science-skills/ ↩

3. National Biotechnology Innovation Center. Bioscience skill standards. InnovATEBIO. https://www.innovatebio.org/resource/bioscience-skill-standards ↩

4. Adami V, Homer N, Utz N, Lippens S, Rappoport JZ, Fernandez-Rodriguez J. An international survey of training needs and career paths of core facility staff. *J Biomol Tech*. Published online November 20, 2020. doi:10.7171/jbt.2021-3201-002 ↩

5. Association of Biomolecular Resource Facilities. Career development. ABRF. https://www.abrf.org/career-development ↩

6. Fletcher LA, Carter VC. The important role of community colleges in undergraduate biology education. *CBE Life Sci Educ*. 2010;9(4):382-383. doi:10.1187/cbe.10-09-0112 ↩